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Applicant(s): TRACETRACK TECHNOLOGY LTD.			367/03301
Serial No.	Filing Date	Examiner	Group Art Unit
PCT/IL03/00041	January 15, 2003	Jill Warden	Unknown
Title: CONTAMINANT SCANNING SYSTEM		<b>COPY</b>	
<p>I hereby certify that this <u>Response to Written Opinion dated April 12, 2004</u></p> <p><i>(Identify type of correspondence)</i></p> <p>is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. <u>703 305 3230</u></p> <p>on <u>May 10, 2004</u>.</p> <p><i>(Date)</i></p>			
<div style="border: 1px solid black; padding: 5px; text-align: center;"><b>SENT</b> 10 -05- 2004 <b>FENSTER &amp; Co.</b></div>		<p><u>Paul Fenster, Reg. No. 33,877</u></p> <p><i>(Typed or Printed Name of Person Signing Certificate)</i></p> <p><u>Paul Fenster</u></p> <p><i>(Signature)</i></p>	
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Application Number: PCT/IL03/00041

Applicant: Trace track Technology Ltd., et al.

Filed: January 15, 2003

5 Title: Contaminant Scanning System

Authorized Officer: Jill Warden

**RESPONSE TO WRITTEN OPINION**

10 This letter and the accompanying amendment are submitted in response to a written opinion dated April 12, 2004. Attached herewith are amended pages 25-34, including new claims 1-84, which replace old claims 1-77 on pages 25-33 of record. Claims 1-37 and 43-82 correspond to old claims 1-37 and 38-77. Claim 9 was amended to correct a typographical error, i.e., to change "an pressure" to "a pressure". Claim 25 was amended as discussed below.  
15 Claims 38-42 and 83-84 are new. Claim 38 finds support, for example, on page 2, lines 10-15. Claims 39-40 find support at least on page 9, lines 2-4. Claim 41 finds support, for example, on page 2, line 7. Claim 42 finds support at least on page 10, line 8. Claim 83 finds support at least in original claims 1-3 and/or on page 2, lines 6-8. Claim 84 finds support at least in original claim 3.

20 In the written opinion, the Examiner stated that claims 1-4, 7-33, 38-55, 58-73 and 75-77 lack novelty in view of Bradshaw et al., U.S. patent 3,998,101. The remaining claims were indicated as being obvious in view of Bradshaw. Applicant respectfully disagrees.

The claims include many features which are not taught or suggested by Bradshaw. Absent a reference teaching these features, the Examiner has not established a *prima facie* case  
25 of anticipation or obviousness. For brevity, the following discussion relates mainly to the independent claims. The dependent claims are patentable at least because they depend from allowable claims.

Claim 1, for example, requires forming a chamber with a volume determined responsive to the inspected item. In Bradshaw, the volume of the chamber is not determined  
30 responsive to the inspected item. The flexibly moveable portion of the wall of the chamber in claim 7 of Bradshaw does not determine the volume of the chamber responsive to the inspected item. Rather, even if the movement of the flexible portion of the wall in Bradshaw is

considered to change the volume of the chamber, such change is performed in generating pressure changes and the volume is not related to the inspected item.

Claim 5 requires defining the chamber at least partially by a flexible mantle. The Examiner states that it is obvious to use flexible mantles with the advantage of being able to conform to different sized containers. The Examiner has not, however, provided a reference showing the use a flexible mantle in forming a chamber for collecting vapors or a reference suggesting to do so. Absent such a reference, the Examiner's statement is impermissible hindsight.

Claim 10, for example, requires placing the inspected item on a flexible mantle and connecting portions of the mantle on different sides of the inspected item to form the chamber. This is not taught or suggested by Bradshaw.

Claim 25 was amended to include a controller adapted to adjust the volume of the chamber responsive to the size of the inspected items. This amendment finds support at least in original claim 1 and/or on page 2, line 12 of the application. Claim 25 was also amended to remove the unnecessary requirement that the chamber has a variable volume.

The dependent claims add further patentability over Bradshaw. Claim 38, for example requires that the pressure difference between the inside and outside of the chamber is substantially constant, after the volume of the chamber is adjusted. Bradshaw does not teach or suggest such a constant pressure difference, as Bradshaw changes the pressure in the chamber in order to induce vapor release.

Claim 43 requires a vapor collection system comprising a mount having an adjustable position, on which at least one vapor collection aiding unit is mounted. Bradshaw does not teach or suggest such a mount having an adjustable position.

Claim 51 requires placing a gas collection head not held by a human operator inside an inspected item. This is not taught or suggested by Bradshaw.

Claim 63 requires placing an internal vapor unit inside the inspected item. Bradshaw does not teach or suggest an internal vapor unit.

Claim 78 requires inserting a vapor release inducing object into an inspected item and collecting vapors from the inspected item. Bradshaw does not teach or suggest inserting such a vapor inducing object into the inspected item.

New claim 83 requires reducing the size of the chamber after the inspected item is placed in the chamber and applying one or more vapor release measures after the size of the chamber is reduced. This is not taught or suggested by Bradshaw.

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A positive IPER is respectfully awaited. In the event that the Examiner believes that there are problems which would make it impossible to issue a positive IPER, the Examiner is respectfully requested to call the undersigned at 1-877-428-5468, which is a US toll free number connected directly to our offices in Israel (please note the 7 hour time difference).

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Respectfully submitted,

Paul Fenster

10 Paul Fenster, Reg No. 33,877  
Agent for Applicants

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**CLAIMS**

1. A method of collecting vapors from an inspected item, comprising:  
providing an item for inspection;  
5 forming a chamber around the inspected item, with a volume determined responsive to the inspected item;  
applying one or more vapor release measures to the dimensions of the inspected item;  
removing gas samples from the formed chamber; and  
analyzing the removed gas samples for traces of one or more chemicals.  
10
2. A method according to claim 1, wherein providing the item for inspection comprises placing the item in a chamber and wherein forming the chamber around the inspected item comprises reducing the volume of the chamber.
- 15 3. A method according to claim 2, wherein reducing the volume of the chamber comprises pumping air out of the chamber.
4. A method according to claim 2, wherein pumping air out of the chamber comprises pumping using a same blower as used for removing gas samples from the inspected items.  
20
5. A method according to claim 4, wherein the chamber is at least partially defined by a flexible mantle, which conforms to the dimensions of the inspected items when the air is pumped out of the chamber.
- 25 6. A method according to claim 5, wherein after the air is pumped out of the chamber the mantle is spaced from the objects by legs protruding from the mantle.
7. A method according to claim 2, wherein reducing the volume of the chamber comprises moving one or more walls of the chamber toward the inspected item.  
30
8. A method according to claim 1, wherein forming the chamber comprises forming an air tight chamber.

9. A method according to claim 8, wherein forming the chamber comprises forming a chamber having a pressure lower than its surrounding.

10. A method according to claim 1, wherein providing the item for inspection comprises  
5 placing the inspected item on a flexible mantle and wherein forming a chamber around the inspected item comprises connecting portions of the mantle on different sides of the inspected item.

11. A method according to claim 1, wherein forming the chamber around the inspected  
10 item comprises connecting a plurality of walls around the provided item, so as to form the inspected chamber.

12. A method according to claim 1, wherein forming the chamber around the inspected item comprises rapping a single mantle around the inspected item.

15 13. A method according to claim 1, wherein forming the chamber comprises forming a chamber having a volume of 20% or less larger than the volume of the inspected item.

14. A method according to claim 1, wherein applying one or more vapor release measures  
20 to the inspected item comprises applying one or more gas jets to the inspected item.

15. A method according to claim 14, wherein applying the one or more gas jets and removing the gas samples are controlled together so that the pressure of the chamber follows a desired course.

25 16. A method according to claim 15, wherein the chamber formed around the inspected item is located within an external chamber and wherein the control of the applied gas jets and the removing of the samples is performed such that relative pressure between the chamber formed around the inspected item and the external chamber is substantially constant.

30 17. A method according to claim 14, wherein forming the chamber around the inspected item comprises forming the chamber such that at least one wall of the chamber, carrying an orifice applying a gas jet at the inspected item is within a predetermined distance range from the inspected item.

18. A method according to claim 14, wherein applying one or more air jets at the inspected item comprises applying hot air jets at the item.
- 5 19. A method according to claim 14, wherein applying one or more air jets at the inspected item comprises applying intermittent air jets at the item.
20. A method according to claim 1, wherein removing gas samples from the formed chamber comprises exhausting through one or more orifices in at least one wall of the  
10 chamber.
21. A method according to claim 1, wherein applying one or more vapor release measures to the inspected item comprises vibrating the inspected item.
- 15 22. A method according to claim 1, wherein applying one or more vapor release measures to the inspected item comprises applying shock waves.
23. A method according to claim 1, wherein removing gas samples comprises removing  
20 air.
24. A method according to claim 1, wherein removing gas samples comprises removing a gas other than air.
25. A vapor collection system, comprising:  
25 a base on which inspected items are placed;  
one or more wall portions adapted to form a chamber around items placed on the base;  
a controller adapted to adjust the volume of the chamber responsive to the size of the inspected items placed on the base;  
at least one tube adapted to remove gas samples from the chamber; and  
30 an analysis unit adapted to determine whether the gas samples include one or more chemicals.
26. A system according to claim 25, wherein the base and one or more wall portions comprise a single flexible mantle piece.

27. A system according to claim 25, wherein the one or more wall portions comprise one or more flexible mantle pieces.
- 5 28. A system according to claim 25, wherein at least a portion of the at least one tube adapted to remove gas samples is coupled to the one or more flexible mantle pieces.
29. A system according to claim 28, wherein at least a portion of the at least one tube adapted to remove gas samples is embedded within the one or more flexible mantle pieces.
- 10 30. A system according to claim 25, comprising one or more legs protruding from the one or more flexible mantle pieces, which prevent the flexible mantle from closely contacting the inspected items.
- 15 31. A system according to claim 25, wherein the base participates in defining the chamber with the one or more walls.
32. A system according to claim 25, wherein the base does not participate in defining the chamber with the one or more walls.
- 20 33. A system according to claim 25, wherein the at least one tubes are embedded within the one or more walls.
34. A system according to claim 25, comprising a blower adapted to exhaust gas out of the chamber so as to adjust the volume of the chamber.
- 25 35. A system according to claim 34, wherein the blower is adapted to remove gas samples from the chamber through the at least one tube.
- 30 36. A system according to claim 34, comprising a compressor adapted to inject gas into the chamber.
37. A system according to claim 36, comprising a controller adapted to control the compressor and the blower such that during a sample collection period of the system, the



relative gas pressure between the chamber and the environment around the chamber is substantially constant, while the blower provides gas samples from the chamber to the analysis unit.

- 5 38. A system according to claim 25, wherein the controller is adapted to keep a pressure difference between the inside and outside of the chamber substantially constant, from when the one or more wall portions form a chamber around the items until the analysis unit determines whether the gas samples include one or more chemicals for the inspected items.
- 10 39. A system according to claim 25, wherein the controller is adapted to reduce the volume of the chamber responsive to the size of the inspected items placed on the base.
40. A system according to claim 39, wherein the controller is adapted to adjust the volume of the chamber by removing a gas from the chamber.
- 15 41. A system according to claim 25, comprising a vapor release inducing unit and wherein the controller is adapted to adjust the volume of the chamber before the vapor release inducing unit is operated on the inspected items.
- 20 42. A system according to claim 25, wherein the controller is adapted to adjust the volume of the chamber to a size not greater than more than 20% of the inspected items.
43. A vapor collection system, comprising:  
one or more wall portions adapted to define a chamber for inspected items;  
25 at least one vapor collection aiding unit; and  
a mount having an adjustable position, on which the at least one vapor collection aiding unit is mounted.
44. A system according to claim 43, wherein the at least one vapor collection aiding unit  
30 comprises a suction nozzle.
45. A system according to claim 43, wherein the at least one vapor collection aiding unit comprises a unit for inducing vapor release.

46. A system according to claim 45, wherein the unit for inducing vapor release comprises a gas blowing nozzle.
47. A system according to claim 45, wherein the unit for inducing vapor release comprises a heater.
48. A system according to claim 43, wherein the mount is one or more of the wall portions.
49. A system according to claim 43, wherein the mount is separate from the wall portions.
50. A system according to claim 43, wherein the position of the mount is adjusted by adjusting the air pressure in the chamber.
51. A method of collecting vapors from an inspected item, comprising:  
placing a collection head inside the inspected item, the collection head not being held by a human operator;  
removing gas samples from the inspected item through the collection head; and  
analyzing the removed gas samples to determine if they include one or more chemicals.
52. A method according to claim 51, wherein placing the collection head in the inspected item comprises placing a collection head not connected through tubes to an external system.
53. A method according to claim 51, wherein placing the collection head in the inspected item comprises placing a collection head connected through tubes to an external system.
54. A method according to claim 51, comprising closing the inspected item with the collection head in the inspected item.
55. A method according to claim 51, comprising applying one or more vapor release measures to the inspected item substantially concurrently with removing the gas samples.
56. A method according to claim 55, wherein applying one or more vapor release measures to the inspected item comprises applying the one or more release measures from the collection head.

57. A method according to claim 55, wherein applying one or more vapor release measures to the inspected item comprises applying the one or more release measures from a unit within the inspected item, separate from the collection head.

58. A method according to claim 55, wherein applying one or more vapor release measures to the inspected item comprises applying the one or more release measures from apparatus external to the inspected item.

59. A method according to claim 55, wherein applying one or more vapor release measures to the inspected item comprises directing air jets at the inspected item.

60. A method according to claim 55, wherein applying one or more vapor release measures to the inspected item comprises vibrating the collection head in order to vibrate the inspected item.

61. A method according to claim 60, wherein applying one or more vapor release measures to the inspected item comprises inflating and deflating a flexible container of the collection head in order to vibrate the inspected item.

62. A method according to claim 61, comprising collecting gas samples from the inspected item by apparatus external to the inspected item, substantially concurrently with collecting the gas samples through the collection head.

63. A method of collecting vapors from an inspected item, comprising:  
placing an internal vapor unit inside the inspected item;  
placing an external vapor unit outside of the inspected item;  
applying a vapor release means at the inspected item from a first one of the external and internal vapor units; and  
removing gas samples from the inspected item through a second one of the external and internal vapor units.

64. A method according to claim 63, wherein the first one of the vapor units comprises the external unit.

65. A method according to claim 64, wherein gas samples are not collected from outside the inspected item.

5 66. A method according to claim 63, wherein the first one of the vapor units comprises the internal unit.

67. A method according to claim 66, wherein gas samples are not collected from within the inspected item.

10

68. A method according to claim 63, comprising additionally applying vapor release means from the second of the external and internal vapor units.

15 69. A method according to claim 63, comprising additionally removing gas samples from the first of the external and internal vapor units.

70. A method according to claim 63, wherein placing the external vapor unit outside of the inspected item comprises placing the inspected item inside a chamber of the external vapor unit.

20

71. A method according to claim 63, wherein placing the external vapor unit outside of the inspected item comprises forming a chamber of the external vapor unit around the inspected item.

25 72. A method according to claim 63, wherein the internal vapor unit is connected through gas pipes to the external unit.

73. A method according to claim 63, wherein the external and internal vapor units are commonly controlled by a single controller.

30

74. A method according to claim 63, wherein the external and internal vapor units are not commonly controlled during their operation.

75. A method according to claim 63, wherein applying vapor release means comprises directing a gas jet at the inspected item.
76. A method according to claim 75, wherein directing a gas jet at the inspected item  
5 comprises directing a jet of purified air.
77. A method according to claim 75, wherein directing a gas jet at the inspected item comprises directing a pulsed jet of gas.
- 10 78. A method of collecting vapors from an inspected item, comprising:  
inserting a vapor release inducing object into the inspected item;  
vibrating the vapor release inducing object; and  
collecting gas samples from the inspected object.
- 15 79. A method according to claim 78, wherein vibrating the vapor release inducing object comprises inflating and deflating a flexible encasement of the vapor release inducing object.
80. A method according to claim 78, wherein vibrating the vapor release inducing object comprises operating a vibrating motor within the vapor release inducing object.  
20
81. A method according to claim 78, wherein collecting gas samples comprises collecting from within the inspected item.
82. A method according to claim 78, wherein collecting gas samples comprises collecting  
25 from outside of the inspected item.
83. A method of collecting vapors from an inspected item, comprising:  
placing an item for inspection within a chamber;  
reducing the size of the chamber after the inspected item is placed in the chamber;  
30 applying one or more vapor release measures to the dimensions of the inspected item,  
after the size of the chamber is reduced;  
removing gas samples from the formed chamber; and  
analyzing the removed gas samples for traces of one or more chemicals.

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84. A method according to claim 83, wherein reducing the volume of the chamber comprises pumping air out of the chamber.

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